authority? Should the smallest British seal be called *Phoca hispida, fœtida*, or *annellata?*

I might go on indefinitely multiplying instances which will be answered differently by different naturalists, the arguments for one or the other name being often nicely balanced. What is wanted, therefore, is some kind of judicial authority for deciding what should in future be used. If a committee of eminent naturalists, selected from various nations and divided into several sections according to the subjects with which each member is most familiar, could be prevailed upon to take up the task of revising the whole of our existing nomenclature upon the basis of the laws issued by the Association in 1842, occasionally tempering their strictly legal decisions with a little discretion and common sense, and with a view, as much as possible, of avoiding confusion, and promoting general convenience; and if the working zoologists of the world generally would agree to accept the decisions of such a committee as final, we should dispose of many of the difficulties with which we are now troubled. There seems to me no more reason why the nomenclature of such a committee, if it were composed of men in whose judgment their fellow-workers would have confidence, should not be as universally accepted as is the nomenclature of the last edition of the "Systema Naturæ" of Linnæus. We have agreed not to look beyond that work for evidence of priority, and why should we not agree in the same way to accept decisions which would probably be arrived at with even fuller knowledge and greater sense of responsibility?

Whether this suggestion will be received with favour or not it appeared to me that it was one not inappropriate for the consideration of this section which has already dealt with the question in a manner so advantageous to science, and also for this year, which has witnessed the hundredth anniversary of the death of the great teacher of systematic zoology.

Our knowledge of the living inhabitants of the earth has indeed changed since that time. Our views of their relations to the universe, to each other, and to ourselves, have undergone great revolutions. The knowledge of Linnæus far surpassed that of any of his contemporaries; but yet of what we now know he knew but an infinitesimal amount. Much that he thought he knew we now deem false. Nevertheless, some of the oldest words to be found in all his writings contain sentiments which still claim a response in the hearts of many. Although we are less accustomed to see such words in works of science, that is no proof that their significance has been impaired by the marvellous progress of knowledge. With the words which Linnæus selected to place at the head of his great work I will conclude—

> "O Jehova,
> Quam ampla sunt tua opera!
> Quam sapienter ea fecisti!
> Quam plena est terra possessione tua!"

## NOTES

The International Congress of Meteorology, to be held in Paris from August 24 to 28 next, at the Trocadéro, will discuss a long series of questions having an important bearing on the progress of meteorology, and especially on combined action on the part of the meteorologists of various countries. Sixteen subjects are down for discussion relating to the study of storms in Europe and America, the means of carrying on and recording meteorological investigations on a uniform plan, the origin and propagation of cyclones, meteorology and aeronautics, terrestrial magnetism, sun-spots and meteorology, influence of the configuration and nature of soil, and other physical conditions on climate, earthquakes, the measures to be adopted in observatories to hasten the progress of meteorology &c. This is certainly a comprehensive programme, and we trust there will be a good attendance of competent meteorologists of all nations, and that some good practical results will be the outcome of the meeting.

We notice that Prof. Fuller has resigned the professorship of mathematics at Aberdeen, which he has held with so much distinction. All of the long list of Senior Wranglers who have come from the University of Aberdeen within the last twenty-five years have been his pupils. Prof. Fuller was tutor of Peterhouse before his appointment to Aberdeen. The chair will probably be filled up in September by the University Court.

The *Journal Officiel* has published the dates of three new congresses to be held at the Trocadéro and Tuileries:—Weights and Measures, September 2, 3, 4; Silk-culture, September 5, 6, 7, 9, 11; Legal Medicine, August 11, 13, 14.

We are informed that a course of six lectures on meteorology will be given under the auspices of the council of the Meteorological Society, commencing in October next. The subjects of the lectures will be:—"The Nature and Physical Properties of the Atmosphere;" "Air Temperature, its Distribution and Range;" "Atmospheric Pressure, Wind, and Storms;" "Clouds and Weather Signs;" "Rain, Snow, Hail, and Electricity;" and "The Nature, Methods, and General Objects of Meteorology." It is intended that these lectures shall give a concise account of the present state of knowledge on the above subjects. The lectures will be open to the public, admission being by ticket, to be obtained at the office of the Society, 30, Great George Street, Westminster, S.W. Further particulars, giving full information as to the time, place, &c., will be duly announced.

Scientific study does not yet appear to have attracted a superfluity of women, to judge by the numbers of candidates at the Cambridge Higher Local Examinations recently held. Only about thirty out of 500 took the science subjects; twenty-one took botany, one failed, and three obtained distinction; twenty-six geology and physical geography, of whom two failed, and seven were distinguished; seven geology, one failed, three distinguished; nine chemistry, three failed, none distinguished. Ten of the science candidates sat at Cambridge, and among them they gained ten out of fourteen of the distinctions given. Miss E. M. Clarke, of Cambridge, was distinguished in geology, zoology, and botany, and passed in chemistry. Mathematics got only twenty-three candidates, of whom four failed; only two, however, were placed in the first class (being Cambridge students), and two in the second. We are glad to learn that two new subjects are to be set in the science group next year, namely, physics and physiology, the latter so much needed in all girls' schools. Also, students will be allowed to take this group without having to pass Group A (literature and history) first, although it will be required for a full certificate.

Sir Samuel Baker, in a letter to a contemporary, advocates the establishment of a botanical garden in Cyprus, similar to that in Ceylon, under the charge of a competent official, by whom experiments will be made, and the trees most suitable for the climate and varying altitudes of mountain ranges be selected.

A Peruvian newspaper, the *Bolsa*, we learn from the *Colonies*, says that extraordinary phenomena have been observed in connection with the "Corpuna" volcano in the province of Castilla, which have caused great alarm among the population. The immense banks of snow which have crowned its summit from time immemorial have suddenly melted away with such rapidity as to cause torrents to rush down the sides of the mountain, washing out immense quantities of stones and earth. The river below, being unable to contain the great body of water so suddenly added to it, overflowed its banks, causing great damage and distress. A great chasm or lateral crater next opened on one side, throwing out volumes of smoke and steam as well as tongues of flame, which were distinctly visible at night, accompanied with loud subterranean rumblings. It had never been supposed that the Corpuna was or could be a volcano, and there is no tradition that it was ever in a state of eruption, Nor within the memory of man has its crown of snow ever been absent.

The British Medical Association concluded its meeting at Bath on Friday. The Association meets next year at Cork, Dr. O'Connor being the president elect.

Experiments have been made at Paris with the telephone between the Exhibition building and Versailles, and they proved very successful. It is intended to make use of the telephone during the great military manœuvres.

The Paper Exhibition which we intimated some time ago was to be held in Berlin is now opened, and an instructive and interesting account of the variety of objects exhibited—from flimsy to paper carpets, chairs, and even boats—will be found in the *Times* of the 13th. Both the articles manufactured and the materials, chemical and other, connected with the manufacture of paper, are exhibited, and judging from the description, the exhibition althogether must be at least as attractive as the Caxton Exhibition of last year. One of the principal exhibitors is Prince Bismarck, who is a partner in a large firm at Varzin; one of his specialties is paper slips for the Morse telegraph apparatus. The following interesting statistics are given by the *Times*' Correspondent from the Catalogue:—

| | Number of Inhabitants. | Kilos consumed. | Kilos per head. |
|---|---|---|---|
| United States | 39,000,000 | 535,000,000 | 14 |
| Germany | 43,000,000 | 244,000,000 | 6 |
| England | 33,000,000 | 168,000,000 | 5 |
| France | 37,000,000 | 138,000,000 | 3·6 |
| Austria-Hungary | 36,000,000 | 92,000,000 | 2·5 |
| Russia | 27,000,000 | 67,000,000 | 0·9 |
| Italy | 28,000,000 | 38,000,000 | 1·4 |
| Scandinavia | 6,000,000 | 3,000,000 | 0·5 |
| Belgium | 5,500,000 | 27,000,000 | 5·1 |
| Switzerland | 2,500,000 | 17,000,000 | 6·3 |

According to inscriptions put up in the hall and illustrated by paste-board cubes of different size, 600,000,000 men employ Chinese paper, while 366,000,000 use the European and 130,000,000 the Arabian article; 24,000,000 write on leaves, bark, and wood, 280,000,000 dispensing with writing and reading, and consequently taking no interest in this enlightened exhibition.

The excursionists who went to the Boulonnais last week under the auspices of the Geologists' Association, led by Prof. Morris, seem to have had a good time of it. Their intention having been communicated to M. A. Huguet, Senator, Maire of Boulogne, he convoked the local geologists, the members of the Société Académique de Boulogne, the Société Médicale, the committees of the Public Library and of the Museum, and invitations were at the same time sent to the Presidents of the Geological Societies of Paris, Lille, &c., to meet their scientific brethren from across the Channel and give them a proper welcome on this the first occasion of English geologists in any number visiting France. Among those assembled to meet the excursionists on their arrival at Boulogne were M. Edmond Pellat, ex-president of the French Geological Society, Dr. Ch. Barrois, Vice-president of the North of France Geological Society, Prof. Giard of the Zoological Laboratory at Wimereux, the British Vice-Consul and other persons of note. The Maire bade the party welcome, and hoped he would have the pleasure of welcoming other deputations of scientific inquirers. Indeed the occasion seems to have assumed somewhat of an international character, and we should not be surprised if the Maire of Boulogne has to welcome many such deputations. Perhaps, should the North of France Geological Society organise an excursion to the London Basin, the Geologists Association may succeed in getting the Lord Mayor to return the pleasant compliment paid the English geologists by the civic chief of Boulogne; a Mansion House dinner might even be possible.

M. Bischofsheim, the well-known generous Parisian banker, having recently visited Montsouris Naval Observatory, and found the canvas roof of the equatorial house in wretched condition, Admiral Mouchez told him, in answer to his inquiry, that the budget of the observatory was not rich enough to meet an expense of 50*l*. required for the construction of a comfortable zinc cover. Next morning Admiral Mouchez received a cheque for 120*l*. from his visitor of the previous evening.

We believe it is deeply regretted in France that M. André and M. Angot, the two French astronomers sent out to America to observe the recent transit of Mercury, did not stay to observe the solar eclipse of July 29, although the two phenomena were visible from the same place. M. André is now in Lyons, and M. Angot arrived in Paris almost on the day when the telegram announced the detection of Vulcan by Prof. Watson.

The new hotel of the Paris Geographical Society is fast approaching completion, and the date for the opening will be determined soon.

We regret to state that M. Cochery, the director of the French Postal Telegraph Department, has announced his intention of charging the several communes receiving the daily telegrams of the Agricultural Service a sum of 4*l*. a year. M. Mascart, the new director of the Central Bureau, has obtained the postponement of this step for a month. If M. Cochery carries his resolution into effect it is pretty certain that the greater number of rural communes will refuse to pay, and the organisation which M. Leverrier had so well organised will be thrown into a state of disorganisation less than a year after his death. It is certain that the Meteorological Congress, which is to meet at the Trocadéro ten days hence, will interfere and lay the case before the public.

M. Bardoux has sent to the prefects of the several departments of France a circular, asking them to collect information on the resources, working, and composition of the meteorological commissions established by Leverrier. The minister intends to give to these boards a uniform organisation.

It is stated in the French papers that Mr. Edison is to have no reward whatever at the Paris Exhibition for his phonograph. The reasons alleged for this apparent denial of justice are somewhat amusing. The jury of the class of instruments of precision declared that the phonograph could not be considered as at all an instrument of precision, but merely a toy; consequently they sent it to the class of telegraphy to be rewarded. But the telegraphists replied that it was of no use whatever in telegraphy, and refused to examine it. The consequence is that the most wonderful invention, probably, in the Exhibition, will be passed by unmentioned and unrewarded.

On Friday, August 9, the Société Française d'Hygiène held a banquet at the Continental Hotel, Paris, for the reception of the Sanitary Institute of Great Britain. Dr. Ricord was in the chair, assisted by M. de Lesseps and Anatole de la Forge, the Director of the Press Department in the Home Office. The toast of the Sanitary Institute was replied to by Mr. Chadwick, who handed to the Société Française d'Hygiène a diploma of affiliation signed by the Duke of Northumberland and Dr. Richardson. Some members of the English Ladies' Sanitary Association were also present at the banquet.

It is not generally known, we are told by the *China Mail* of Hongkong, that official rank is, to a certain extent, hereditary in China. Thus, when an officer of the first rank dies—the four grand secretaries, viceroys, and chief presidents of the "boards" at Peking, for instance—his sons inherit the "full fifth" rank, and are entitled to commence their public career as *Langchung*, or junior lord, of one of the boards. The sons of officers of the "full-second" rank—such as vice-presidents of the boards and governors—may enter public life as assistant secretaries, with the "half-fifth" rank. The sons of officers of the "half-second" rank become under-assistants, with "full-sixth" rank. The sons of officers of the third rank obtain the honorary degree of bachelor of arts, carrying the seventh rank. The sons of deceased officers of lower grades inherit no rank.

THE thirty-ninth anniversary meeting of the Royal Botanic Society was held in the Gardens, Regent's Park, on Saturday, Mr. James Heywood, F.R.S., in the chair. The annual reports of the council, auditors, and secretary were read. From these reports it appears that the affairs of the society are in a satisfactory state; the receipts in each of the several items had exceeded those of 1877, the balance being some 600*l.* better. The number of new Fellows elected was 112. Four hundred and eighty-one free students' orders for terms of two to six months each had been issued, including sixty-three to artists. The number of cut specimens given to students, professors, and teachers at the several medical and other schools was 63,414—an increase of 20,000 over last year, and 40,000 more than in 1871. The usual exchange of plants and seeds has been maintained with vigour; valuable contributions to the Society's collections were received from correspondents, including the Botanic Gardens of South Australia, Mauritius, Dublin, &c., and also from the Royal Gardens, Kew.

THE additions to the Zoological Society's Gardens during the past week include two European Lynx (*Felis lynx*) from Norway, presented by Major Chadwick; a Hobby (*Hypotriorchis subbuteo*), British Isles, presented by Mr. Howel Scratton; a Solitary Thrush (*Monticola cyanea*), European, presented by Mr. W. Verner; a Common Marmoset (*Hapale jacchus*), a Weeper Capuchin (*Cebus capucinus*), three Bluish Finches (*Spermophila cærulescens*) from Brazil, a Coati (*Nasua nasica*), a Common Boa (*Boa constrictor*), a Common Teguexin (*Teius teguexin*) from South America, a Red and Blue Macaw (*Ara macao*) from Central America, deposited; a Black-footed Penguin (*Spheniscus demersus*) from South Africa, two Common Kingfishers (*Alcedo ispida*), British Isles, purchased; a Wapiti Deer (*Cervus canadensis*), born in the Gardens; a Black-crested Cardinal (*Gubernatrix cristatella*), two Talpacoti Ground Doves (*Chamæpelia talpacoti*), bred in the Gardens.

## *THE NORWEGIAN NORTH ATLANTIC EXPEDITION*

THE Expedition left Hammerfest on July 13 on its trip westwards. The depths sounded on the following days were not great, the greatest being 1,440 fathoms in 72° 16′ N. lat. and 8° 9′ E. long. On the 17th, late in the evening, we unexpectedly met the ice of the Greenland Arctic current, in 73° 10′ N. lat. and 3° 22′ W. long., and were obliged to turn eastwards and northwards. Our next cross section commenced in 75° 16′ N. lat. and 0° 54′ W. long., and went along the 75th parallel to a point north-east of Bear Island. On the westernmost point we had a depth of 1,985 fathoms, but later only smaller depths. The bank west of Bear Island lies much more easterly and nearer this island than shown in the charts, there being a depth of 1,100 fathoms in the place where the French Expedition with *La Recherche* in 1839 gives 259 fathoms. The weather was in the beginning favourable, but under the ice we had strong northerly winds with a temperature of 2° C. and a heavy swell from the south-east. Having passed the meridian of Bear Island the temperature of the water fell to 0·2° C. on the Spitzbergen Bank. From our last sounding and dredging station north-east of Bear Island we sailed down to the east side of the island and stopped outside the south-east side, but the heavy wind and sea did not allow us to go on shore. With the glass we saw distinctly the Russian hut and its environs, but were not able to see our flag, which we had planted by the Dutch port, nor any column or cairn which could show us that the Dutchmen had been there. At 10 P.M. on July 23 we made sail for Norway, and with a fair but rather heavy gale and storm the *Vöringen* went on, heavily rolling, till we, twenty-four hours afterwards, made the Norwegian coast in thick rainy weather. At 4 A.M. on the 24th we dropped our anchor in Hammerfest.

Our soundings show that there is a sort of ridge 1,200–1,300 fathoms deep, between Bear Island and Jan Mayen. The trawl has brought up from the ice-cold water in these depths many rare and several new fishes, particularly of the genus Lycodes. A good many other new animals have been secured by our zoologists. The line of 0° C. lies in our last two cross-sections still at a depth of 500 fathoms. In the eastern part of our sea, the boundary line of the polar current, where 0° is to be found is less than 30 fathoms, and the surface water is less than 5°, lies in lat. 72½° N., long. 6° E., and in lat. 75° N., long. 7½° E. North and east of Bear Island the ice-cold Spitzbergen current runs southward over a very shallow bottom, the depths being only some 20 fathoms. The border of the Greenland Arctic current shows the same phenomenon as that observed in our northern fjords, viz., a minimum of temperature in, say, 40 fathoms depth, a second maximum about 0° C. in, say, 100 fathoms, and the absolute minimum of − 1·4° at the sea bottom.

We are now fitting out for our last trip, to the sea west of Spitzbergen, and expect to be ready to sail on the 30th.

At this moment we have news from the Dutch expedition, whose commander has left a letter, sent us from Vardö. He tells us that they made Jan Mayen on the east side but were not able to land in the heavy sea. From Jan Mayen they proceeded along the edge of the ice to Hackluyt's Headland, North Spitzbergen, which they reached on June 19. North of Spitzbergen they spent some fourteen days, and went as far east as to the Verlegin Hook. Thence they sailed southwards, called at Kobbe Bay, and found our mail at Bear Island, but were obliged to leave that place in a hurry, the wind being rather strong. Their letters home have probably been taken by a Norwegian fisherman off Vardö. Prof. Nordenskjöld passed the North Cape some days ago.

Hammerfest, July 27 H. MOHN

## *THE ECLIPSE OF THE SUN*

ON another page we print an article, just received from Mr. Lockyer, on the recent eclipse, which, from its title and date, it will be seen was written before the event. The following telegrams from the *New York Tribune* of July 31 will perhaps enable our readers, in the meantime, to form a more complete idea of the results achieved.

A telegram to the *Tribune* from Lebanon, Mo., July 30, states that the Fort Worth party of observers, consisting of L. Waldo and R. W. Willson, of Harvard University, Prof. J. K. Ries and W. H. Pulsifer, of St. Louis, and Mr. F. E. Seagrave, of Providence, R. I., had fine weather for their observations, and met with general success. The four contacts were observed both with and without spectroscopes. The reversion of the spectral lines at totality, and the corona and its spectrum were studied, and five photographs, two of them polariscopic, were secured during totality. A number of sketches by local observers, for extent and form of corona, were made. The observers stationed by this party at McKinney, Allen, Cleburne, Waco and Dallas, were also generally successful in observing the duration of totality.

The following official telegrams were received at the U.S. Naval Observatory from the Naval Professors who were in charge of parties sent out to observe the eclipse:—